Application No. Applicant(s) Index of Claims 10/810,860 PARK ET AL. Examiner Art Unit Kim M. Lewis 3743 (Through numeral) Rejected Non-Elected Appeal N Cancelled Α Allowed Restricted o Interference Objected Claim Date Claim Claim Date Date Original 4/20/05 Original Original Final Final

| 1                          | 1        | =        | -        | ┪            | <del> </del> | $\vdash$     | $\vdash$ | ┼        | ╁            | <del> </del> |     |   | F4       |               | -        |          | $\dashv$ | -        | $\dashv$ | -        | -        | Н  |     | <u> </u> | 101 | $\vdash$        | ⇥   | -  | $\vdash$ | $\vdash$ |                   |   | $\rightarrow$   |                |
|----------------------------|----------|----------|----------|--------------|--------------|--------------|----------|----------|--------------|--------------|-----|---|----------|---------------|----------|----------|----------|----------|----------|----------|----------|--|-----|----------|-----|-----------------|---|--|----------|----------|-------------------|---|---|----------------|
| 2                          | 2        | =        | $\vdash$ |              | ╢            | ├            | $\vdash$ | -        | ╌            | -            |     |   | 51<br>52 | $\dashv$      | -        |          | $\dashv$ |          | -        | -        | _        | _  |     |          | 101 | $\sqcup$        | 4   | $\dashv$   | $\vdash$ | Ш        |                   | _   | $\dashv$  | Ш              |
|                            | 3        | _        | $\vdash$ | ⊢            | ╁            | ┢            | ⊢        | ┢        | -            | -            |     |   | 53       | $\dashv$      |          |          | $\dashv$ |          |          | -        | _        | <u> </u>   |     | <u> </u> | 102 | $\vdash \vdash$ | 4   | $\dashv$   | $\vdash$ | Н        |                   | _   | _   | ш              |
|                            | 4        | _        |          | H            | ├-           | ⊢            | ⊢        | ┢        | ⊢            | -            |     |   | 53       |               |          | $\dashv$ |          | $\dashv$ | -        |          |          |  |     | <u> </u> | 103 | $\vdash$        | 4   |  | $\vdash$ | Ш        | $\dashv$          | _   | $\dashv$  | ш              |
|                            | 5        | -        | -        | -            | ├            | ├            | -        | ₩        |              |              |     | - | 54       | -             | -        |          | -        | $\dashv$ | $\dashv$ |          |          | Н  |     |          | 104 | -               | $\dashv$  | _  | $\dashv$ | Ш        | $\dashv$          | _   | _   |                |
| -                          | 6        | -        | _        | <u> </u>     | ⊢            | $\vdash$     | -        | ┝        | _            |              |     |   | 55       |               |          | _        | -        |          | 4        |          |          |  |     |          | 105 | -               | 4   | _  | Щ        | Ш        | _                 | _   |   | Ш              |
| $\vdash$                   | 7        |          | -        | ┝            | -            | $\vdash$     |          | -        | -            | <u> </u>     |     |   | 56       | $\dashv$      |          |          | $\dashv$ |          |          | $\dashv$ |          |  |     |          | 106 | -               | 4   | $\dashv$   |          | $\vdash$ |                   | _   | _   | $\blacksquare$ |
|                            | 8        | -        |          | -            | -            | ⊢            | ⊢        | -        | -            | _            |     |   | 57       | $\dashv$      |          |          | $\dashv$ |          | _        | -        | _        |  |     |          | 107 |                 | 4   | _  |          | $\sqcup$ | _                 | _   | _   |                |
|                            | 9        | -        | -        | -            | -            |              | ├        | ┼        | -            | _            |     |   | 58       |               |          |          | $\dashv$ | $\dashv$ | _        |          | _        | Н  |     |          | 108 | -1              | $\dashv$  | _  | _        | Ш        | _                 | _   | $\dashv$  |                |
| <u> </u>                   | 10       | -        | _        | <del> </del> | ├            | -            | -        | -        | ┝            |              |     |   | 59       |               | -        | $\dashv$ | $\dashv$ | 4        | 4        |          | 4        | Щ  |     |          | 109 |                 | 4   | _  |          | $\sqcup$ | _                 | $\dashv$  | $\dashv$  |                |
|                            | 11       |          | -        | _            | -            |              | ⊢        | -        | _            | Н            |     |   | 60       | $\rightarrow$ | $\dashv$ | $\dashv$ |          | -        | -        | -        | -        | Щ  |     |          | 110 | -               | 4   | _  |          | Ц        | $\dashv$          | _   | $\dashv$  | $\blacksquare$ |
|                            | 12       | -        | $\vdash$ |              | ⊢            | ├-           | ⊢        | ┢        | -            | Н            |     |   | 61       | -             |          | $\dashv$ | $\dashv$ | -        | 4        | _        | _        | Щ  |     |          | 111 | $\Box$          | 4   | _  |          | $\dashv$ | $\dashv$          | _   | _   | $\dashv$       |
|                            | 13       |          | $\vdash$ | -            | $\vdash$     |              | ⊢        | $\vdash$ |              | $\vdash$     |     |   | 62       | 4             | $\dashv$ |          | $\dashv$ | $\dashv$ | -        | _        | _        | _  |     | <u> </u> | 112 | -               | 4   | 4  | $\Box$   |          | $\dashv$          | _   | _   | _              |
| -                          | 14       |          |          |              | -            | ⊢            | $\vdash$ |          | ⊢            | -            |     |   | 63       | -             |          |          | $\dashv$ | -        | -        | $\dashv$ |          | _  |     | <u> </u> | 113 | $\vdash$        | 4   | $\dashv$   | $\dashv$ | $\dashv$ | $\dashv$          | 4   | _   |                |
| $\vdash$                   | 15       | -        |          | _            | ├            | ⊢            | ⊢        |          |              | -            |     |   | 64       | -             |          |          | $\dashv$ | $\dashv$ |          | $\dashv$ | _        | _  |     |          | 114 | $\vdash$        | 4   | _  | _        | $\dashv$ | _                 | _   | _   |                |
| $\vdash$                   | 16       | $\vdash$ |          | <b>-</b>     | $\vdash$     | -            | ⊢        | $\vdash$ | <del> </del> | $\vdash$     |     |   | 65       |               | -        |          |          | -        | $\dashv$ | -        |          | Щ  |     |          | 115 | $\vdash \vdash$ | 4   | _  | _        | $\dashv$ |                   | _   | _   | $\dashv$       |
|                            | 17       | -        | $\vdash$ |              | ⊢            |              | -        | -        | $\vdash$     | Н            |     |   | 66       |               | $\dashv$ |          | -        | $\dashv$ | $\dashv$ |          | $\dashv$ |  |     |          | 116 | _               | 4   | _  |          | _        | _                 | _   | _   |                |
| $\vdash$                   | 18       |          | $\vdash$ | $\vdash$     | $\vdash$     | $\vdash$     | -        | ⊢        | $\vdash$     | $\vdash$     |     |   | 67       | $\dashv$      |          |          | -        | $\dashv$ | $\dashv$ |          |          | $\vdash$   |     |          | 117 |                 | $\dashv$  | $\dashv$   |          | _        | _                 | _   | $\dashv$  | _              |
| $\vdash$                   | 19       |          |          | -            | -            | H            | ⊢        | -        | ├            | Н            |     |   | 68       | -             |          | -        | $\dashv$ | -        | $\dashv$ |          |          |  |     |          | 118 | _               | $\dashv$  | 4  | _        | _        | 4                 | _   | _   |                |
|                            | 20       |          |          | -            |              | <del> </del> | ├—       | -        | -            | Н            |     |   | 69       | -             |          | _        | $\dashv$ | -        | $\dashv$ | -        |          |  |     |          | 119 | _               | 4   | _  | _        | $\dashv$ | _                 |   | $\dashv$  | _              |
| <b></b>                    | 21       |          | _        | -            | H            | ⊢            | -        |          |              | $\vdash$     |     |   | 70       | $\dashv$      | -        |          | 4        | -        | -        | _        | $\dashv$ |  |     | <u> </u> | 120 |                 | 4   | _  | _        |          | _                 | _   | _   | _              |
| $\vdash$                   |          | Н        |          |              |              | Н            |          |          |              | Н            |     |   | 71       |               | -        |          | -        | -        | 4        |          | _        |  |     |          | 121 |                 | 4   | _  | $\dashv$ | _        | _                 | _   | _   | _              |
| $\vdash \vdash$            | 22<br>23 | $\vdash$ | -        |              |              | _            | -        |          | <u> </u>     | Н            |     |   | 72       | -             |          | -        | +        |          | 4        | -        | _        | Щ  |     |          | 122 |                 | 4   | _  | _        | _        | _                 | _   | _   | _              |
| -                          |          | Н        |          | _            | -            | _            | <u> </u> |          | <u> </u>     | _            |     |   | 73       | -             | _        |          | 4        |          | 4        | _        |          | $\Box$   |     |          | 123 |                 | 4   | _  | _        | $\perp$  |                   | 4   | $\dashv$  | _              |
|                            | 24       | _        |          |              | H            | _            |          | $\vdash$ | _            |              |     |   | 74       | 4             |          |          | $\dashv$ | -        |          | _        | _        | $\Box$   |     | <u> </u> | 124 |                 | 4   | $\dashv$   | _        | _        | _                 | _   | _   | $\dashv$       |
|                            | 25       | -        | -        |              | $\vdash$     | _            |          | _        | <u> </u>     | $\vdash$     |     |   | 75       | -             | $\dashv$ | -        | 4        | -        | -        | _        | _        |  |     | <u> </u> | 125 |                 | _   | _  | _        | 4        | _                 | _   | $\dashv$  | ᆜ              |
|                            | 26       |          | $\vdash$ |              | Н            |              | _        | $\vdash$ | _            |              |     |   | 76       | 4             | _        |          | _        | 4        | 4        | _        | _        |  |     |          | 126 |                 | 4   |  | _        | _        | _                 | _   | _   | _              |
| $\vdash$                   | 27       | $\dashv$ | -        |              | Н            | _            | _        | _        | H            | Н            |     |   | 77       | _             | _        | _        | 4        | 4        | 4        | _        | _        | _  |     |          | 127 |                 | 4   | _  | _        | $\dashv$ | _                 | _   | _   |                |
| $\vdash$                   | 28       | -        | $\Box$   |              | $\vdash$     | <u> </u>     | _        | Н        | _            | Щ            | ļ   |   | 78       | -             | -        | _        | $\dashv$ | _        | $\perp$  | _        | _        | _  |     |          | 128 |                 | 4   | _  | _        | $\dashv$ | _                 | _   | _   | _              |
| $\vdash$                   | 29       | _        | $\Box$   |              |              | L            | _        | Н        | _            |              | -   |   | 79       | 4             | _        |          | $\dashv$ | _        |          | 4        | _        | _  |     |          | 129 |                 | _   | _  | _        | $\dashv$ | _                 | _   | _   | _              |
|                            | 30       |          |          |              | Н            |              |          | _        |              | Щ            |     |   | 80       | _             | _        | _        | 4        | _        | _        | 4        | _        | _  |     |          | 130 | _               | _   |  |          |          | $\perp$           | $\perp$   | _   |                |
| <del></del>                | 31       |          |          |              | -            | _            |          | -        |              | Ц            |     |   | 81       | _             | 4        |          | 4        | 4        | 4        |          | _        | _  |     |          | 131 | $\perp$         | 4   |  |          | _        | _                 | $\dashv$  | $\dashv$  |                |
|                            | 32       | -        | -        | _            | $\square$    |              |          | H        | L.           | $\vdash$     |     |   | 82       | _             | _        |          | 4        | 4        | 4        | 4        | _        | _  |     |          | 132 |                 | $\dashv$  | _  | _        | $\dashv$ | $ \bot $          |   | $\Box$  | Щ              |
| <b>  </b>                  | 33       |          | _        |              | $\vdash$     |              | _        |          |              | Щ            | ļ   |   | 83       | 4             | 4        | _        | 4        | 4        | _        | _        | _        | _  |     |          | 133 |                 | $\perp$   | $\dashv$   |          | $\dashv$ | $\dashv$          |   |   |                |
|                            | 34       |          | $\dashv$ | _            | Н            | _            |          | _        |              | Щ            | - } |   | 84       | _             | 4        | 4        | $\dashv$ | _        | 4        | 4        |          | $\Box$   |     |          | 134 |                 | ┙   |  |          | $\perp$  | $\bot$            | ightharpoonup   | $\perp$   |                |
| ļ                          | 35       | _        | _        |              | Н            |              |          | Ш        |              | _            | ļ   |   | 85       | 4             | _        | _        | 4        | 4        | 4        | _        | _        |  |     |          | 135 |                 | $\dashv$  | _  | $\Box$   |          | $\perp$           |   |   |                |
| $\vdash \dashv$            | 36       |          |          |              | Ш            | Щ            |          | Щ        |              | $\dashv$     | ļ   |   | 86       | _             | $\dashv$ | _        | 4        | 4        | 4        | 4        | _        |  | ļ   |          | 136 | $\perp$         | $\perp$   | _[   | $\Box$   | [        |                   | $\bot$  | $\Box$  |                |
|                            | 37       | _        |          |              | -            | $\square$    |          | $\vdash$ |              | Щ            | ļ   |   | 87       | _             | _        | _        | _        | _        | 4        | 4        | $\perp$  |  | ļ   |          | 137 |                 | ᆚ   |  |          | ┙        |                   |   |   |                |
|                            | 38       |          | 4        |              | $\square$    |              |          | $\sqcup$ |              |              | ļ   |   | 88       | 4             | _        | _        | 4        | _        | $\dashv$ | _        |          | _  | ļ   |          | 138 |                 | ᆚ   | $\perp$  |          | $\perp$  | $\bot$            | $\Box$  |   | _]             |
| <b>  </b>                  | 39       | _        | <b></b>  |              | $\sqcup$     | <u> </u>     |          | Ш        | _            |              |     |   | 89       | 4             | 4        | $\dashv$ | 4        | _        | $\dashv$ | 4        | _        | $\Box$   |     | L        | 139 |                 | $\perp$   | [  |          | $\prod$  | $\Box$            | $oldsymbol{\bot}$   | $\Box$  |                |
|                            | 40       |          |          | _            | Ш            |              |          | Ш        | Щ            | $\Box$       |     |   | 90       | 4             | _        | _        | 4        | $\perp$  | _        | $\perp$  | _        |  | - [ |          | 140 |                 | $\perp$   |  |          |          | $\Box$            | $oldsymbol{ol}}}}}}}}}}}}}}}$ |   |                |
| $\vdash \vdash \downarrow$ | 41       | _        |          |              | Ц            | Ш            |          | -        | Ш            | Щ            | ļ   |   | 91       | 4             | $\dashv$ | $\dashv$ | <b>ユ</b> | $\perp$  | _        | $\bot$   | _        |  |     |          | 141 |                 | $\perp$   |  |          | $\Box$   |                   | $oldsymbol{ol}}}}}}}}}}}}}} $ | $oldsymbol{ol{ol{ol}}}}}}}}}}}}}}}}}$ |                |
| ┝╼┩                        | 42       |          | _        |              | $\square$    | Ш            |          | Ш        |              | Щ            | ļ   |   | 92       | $\dashv$      | _        | $\dashv$ | 4        | _        |          |          | _        |  |     |          | 142 | $\Box$          | $oldsymbol{\perp}$  | $oldsymbol{ol}}}}}}}}}}}}}}}}$ | $\Box$   | $\Box$   | $\Box$            |   |   |                |
|                            | 43       |          | _        | _            | Щ            |              |          | Ш        |              | $\Box$       | Ļ   |   | 93       |               |          | _        | $\dashv$ | $\perp$  |          | $\perp$  |          | $ \bot $   |     |          | 143 | [_              | $\perp \!\!\! \perp$  | $\Box$   | $\Box$   |          |                   | $oldsymbol{ol}}}}}}}}}}}}}} $ | $ \bot $  | $\Box$         |
|                            | 44       |          | _        |              | $\sqcup$     |              |          | $\sqcup$ |              | Ш            | ļ   |   | 94       | $\dashv$      |          | _        | $\dashv$ | $\perp$  | _        |          |          | $\Box$   |     |          | 144 | $\Box$          | $\perp$   | $\Box$   | $\Box$   | $\Box$   | $oldsymbol{\bot}$ | $oldsymbol{ol}}}}}}}}}}}}}}}$ | $\Box$  |                |
|                            | 45       | _        | _        |              | $\square$    |              |          | Ш        |              | _            | L   |   | 95       |               | _        |          | $\dashv$ |          | _        | _        | _        | ┙  |     |          | 145 |                 | $\perp$   |  |          |          |                   | $\Box$  |   |                |
|                            | 46       | _        | _        |              | Ш            | Щ            |          | $\sqcup$ |              | _            |     |   | 96       |               | $\perp$  | $\perp$  | $\perp$  |          |          | $\perp$  | $\perp$  |  | (   |          | 146 | $\Box$          | $oldsymbol{ol}}}}}}}}}}}}}}}$ | $\Box$   |          | T        | $\Box$            | $\Box$  | ╛   | ヿ              |
|                            | 47       | _        | _        |              | Щ            |              |          | Щ        |              |              | Ļ   |   | 97       |               | $\dashv$ | $\perp$  | $\perp$  | $\perp$  |          |          |          |  | [   |          | 147 | $\Box$          | $\perp$   | $\Box$   |          |          |                   | J   | $\neg$  | $\neg$         |
|                            | 48       | _        | _        |              | Щ            |              |          | Ш        |              |              |     |   | 98       |               | $\perp$  |          | $\perp$  |          |          | _[       |          |  | [   |          | 148 |                 | $oldsymbol{oldsymbol{oldsymbol{oldsymbol{\Box}}}$   | $\Box$   | $\Box$   | J        | $\Box$            | $\exists$   |   | $\neg$         |
|                            | 49       | _        | _        |              |              |              |          | Ш        | _            | _            | L   |   | 99       | _             | $\perp$  | _[       |          |          | $\perp$  |          | [        | $\Box$   |     |          | 149 |                 | $oldsymbol{oldsymbol{oldsymbol{oldsymbol{I}}}$  | $\Box$   | $\Box$   | $\Box$   |                   | $\Box$  | $\neg$  | ヿ              |
|                            | 50       |          |          |              |              |              |          | L İ      |              |              | L   |   | 100      |               | $\perp$  |          | _L       |          |          |          |          | $oldsymbol{ol}}}}}}}}}}}}}}}}}}}}}}$ | [   |          | 150 |                 | $\perp$   | $\Box$   | $\Box$   | T        | $\Box$            |   |   | П              |